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#11

RAW SEQUENCE LISTING

DATE: 10/15/2001

PATENT APPLICATION: US/09/389,545A

TIME: 13:29:36

Input Set : A:\PTO_VSK.txt

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3 <110> APPLICANT: Dunstan, Colin R.
 5 <120> TITLE OF INVENTION: Compositions and Methods for the Prevention or Treatment of Cancer and

6 Bone Loss Associated with Cancer

8 <130> FILE REFERENCE: A-605

10 <140> CURRENT APPLICATION NUMBER: 09/389,545A

11 <141> CURRENT FILING DATE: 1999-09-03

13 <160> NUMBER OF SEQ ID NOS: 15

15 <170> SOFTWARE: PatentIn version 3.1

17 <210> SEQ ID NO: 1

18 <211> LENGTH: 232

19 <212> TYPE: PRT

20 <213> ORGANISM: Homo sapiens

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29 20 25 30

32 Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val

33 35 40 45

36 Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val

37 50 55 60

40 Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln

41 65 70 75 80

44 Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln

45 85 90 95

48 Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala

49 100 105 110

52 Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro

53 115 120 125

56 Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr

57 130 135 140

60 Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser

61 145 150 155 160

64 Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr

65 165 170 175

68 Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr

69 180 185 190

72 Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe

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80 Ser Leu Ser Leu Ser Pro Gly Lys

81 225 230

84 <210> SEQ ID NO: 2

85 <211> LENGTH: 401

86 <212> TYPE: PRT

87 <213> ORGANISM: Homo sapiens

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96          20          25          30
99 Pro Glu Thr Gly His Gln Leu Leu Cys Asp Lys Cys Ala Pro Gly Thr
100          35          40          45
103 Tyr Leu Lys Gln His Cys Thr Val Arg Arg Lys Thr Leu Cys Val Pro
104          50          55          60
107 Cys Pro Asp His Ser Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
108 65          70          75          80
111 Val Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Ser Val Lys Gln Glu
112          85          90          95
115 Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Glu Glu Gly Arg Tyr
116          100          105          110
119 Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Ser
120          115          120          125
123 Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Lys
124          130          135          140
127 Cys Pro Asp Gly Phe Phe Ser Gly Glu Thr Ser Ser Lys Ala Pro Cys
128 145          150          155          160
131 Ile Lys His Thr Asn Cys Ser Thr Phe Gly Leu Leu Leu Ile Gln Lys
132          165          170          175
135 Gly Asn Ala Thr His Asp Asn Val Cys Ser Gly Asn Arg Glu Ala Thr
136          180          185          190
139 Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
140          195          200          205
143 Phe Ala Val Pro Thr Lys Ile Ile Pro Asn Trp Leu Ser Val Leu Val
144          210          215          220
147 Asp Ser Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
148 225          230          235          240
151 Lys Arg Arg His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
152          245          250          255
155 Trp Lys His Gln Asn Arg Asp Gln Glu Met Val Lys Lys Ile Ile Gln
156          260          265          270
159 Asp Ile Asp Leu Cys Glu Ser Ser Val Gln Arg His Leu Gly His Ser
160          275          280          285
163 Asn Leu Thr Thr Glu Gln Leu Leu Ala Leu Met Glu Ser Leu Pro Gly
164          290          295          300
167 Lys Lys Ile Ser Pro Glu Glu Ile Glu Arg Thr Arg Lys Thr Cys Lys
168 305          310          315          320
171 Ser Ser Glu Gln Leu Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
172          325          330          335
175 Gly Asp Gln Asp Thr Leu Lys Gly Leu Met Tyr Ala Leu Lys His Leu
176          340          345          350
179 Lys Thr Ser His Phe Pro Lys Thr Val Thr His Ser Leu Arg Lys Thr
180          355          360          365
183 Met Arg Phe Leu His Ser Phe Thr Met Tyr Arg Leu Tyr Gln Lys Leu
184          370          375          380

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188 385                               390                               395                               400
191 Leu
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196 <211> LENGTH: 407
197 <212> TYPE: PRT
198 <213> ORGANISM: Homo sapiens
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207                               20                               25                               30
210 Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro Cys Pro Asp His Tyr
211                               35                               40                               45
214 Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro
215                               50                               55                               60
218 Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His
219 65                               70                               75                               80
222 Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe
223                               85                               90                               95
226 Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala
227                               100                              105                              110
230 Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe
231                               115                              120                              125
234 Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn
235                               130                              135                              140
238 Cys Ser Val Phe Gly Leu Leu Thr Gln Lys Gly Asn Ala Thr His
239 145                              150                              155                              160
242 Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Ala Ala Ala
243                               165                              170                              175
246 Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
247                               180                              185                              190
250 Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
251                               195                              200                              205
254 Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
255                               210                              215                              220
258 Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
259 225                              230                              235                              240
262 Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
263                               245                              250                              255
266 Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
267                               260                              265                              270
270 Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
271                               275                              280                              285
274 Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
275                               290                              295                              300
278 Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
279 305                              310                              315                              320
282 Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser

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283          325          330          335
286 Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
287          340          345          350
290 Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
291          355          360          365
294 Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
295          370          375          380
298 Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
299 385          390          395          400
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303          405
306 <210> SEQ ID NO: 4
307 <211> LENGTH: 400
308 <212> TYPE: PRT
309 <213> ORGANISM: Homo sapiens
311 <400> SEQUENCE: 4
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314 1          5          10          15
317 Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr Tyr Leu Lys Gln His
318          20          25          30
321 Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro Cys Pro Asp His Tyr
322          35          40          45
325 Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro
326          50          55          60
329 Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His
330 65          70          75          80
333 Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe
334          85          90          95
337 Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala
338          100          105          110
341 Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe
342          115          120          125
345 Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn
346          130          135          140
349 Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His
350 145          150          155          160
353 Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Val Asp Lys
354          165          170          175
357 Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
358          180          185          190
361 Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
362          195          200          205
365 Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
366          210          215          220
369 Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
370 225          230          235          240
373 Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
374          245          250          255
377 Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu

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378          260          265          270
381 Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
382          275          280          285
385 Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
386          290          295          300
389 Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
390 305          310          315          320
393 Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
394          325          330          335
397 Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
398          340          345          350
401 Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
402          355          360          365
405 Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
406          370          375          380
409 Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
410 385          390          395          400
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414 <211> LENGTH: 400
415 <212> TYPE: PRT
416 <213> ORGANISM: Homo sapiens
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424 Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr Tyr Leu Lys Gln His
425          20          25          30
428 Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro Cys Pro Asp His Tyr
429          35          40          45
432 Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys Leu Tyr Cys Ser Pro
433          50          55          60
436 Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu Cys Asn Arg Thr His
437 65          70          75          80
440 Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr Leu Glu Ile Glu Phe
441          85          90          95
444 Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe Gly Val Val Gln Ala
445          100          105          110
448 Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg Cys Pro Asp Gly Phe
449          115          120          125
452 Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys Arg Lys His Thr Asn
453          130          135          140
456 Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys Gly Asn Ala Thr His
457 145          150          155          160
460 Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr Gln Lys Val Asp Lys
461          165          170          175
464 Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
465          180          185          190
468 Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
469          195          200          205
472 Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp

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VERIFICATION SUMMARY

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